AMSAT News Service Weekly Bulletins
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AMSAT NEWS SERVICE
ANS-218

ANS is a free, weekly, news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

Please send any amateur satellite news or reports to:
ans-editor@amsat.org

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ANS-218 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 218.01
  From AMSAT HQ SILVER SPRING, MD.
August 5, 2012
To All RADIO AMATEURS
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AMSAT-UK Colloquium 2012

The AMSAT-UK Colloquium 2012 will be held at the Holiday Inn, Egerton Road, Guildford GU2 7XZ starting at 1000 am on Saturday 15 September, and finishing at approximately 17.00 pm on Sunday 16 September 2012.

The colloquium attracts an international audience from across Europe as well as North America and the Middle East. Attendees range from the builders of the CubeSats and Nanosats, those who communicate through them and beginners who wish to find out more about this fascinating branch of the hobby.

This event provides a rare opportunity to chat with satellite designers and builders, discussions frequently continue until the early hours of the morning.

There will be a beginner's session starting approximately 4pm on Friday 14 September. A Friday Night dinner will be held at the hotel. If you wish to attend, please contact Jim Heck by email at g3wgm@amsat.org at least one week before the event.

A Gala dinner is held on the Saturday evening along with the fund raising auction.

Call for Speakers and Papers

AMSAT-UK invites speakers, to cover topics about micro-satellites, CubeSats, Nanosats, space and associated activities, for this event. They are also invited to submit papers for the "Proceedings" document which will be published at the same time but printed papers are not mandatory. We normally prefer authors to present talks themselves rather than having someone else give them in the authors' absence. We also welcome "unpresented" papers for the Proceedings document.

Submissions should be sent ONLY to David Johnson G4DPZ, via these routes: e-mail: david dot johnson at blackpepper dot co dot uk. Postal address at http://www.qrz.com/db/G4DPZ

Change in Booking Procedures

There is a booking change this year. Do not book your room with the hotel. Instead you need to book your room with AMSAT-UK at the on-line shop: http://shop.amsat.org.uk - the hotel will only hold rooms reserved for AMSAT-UK until August 24. If you book after this date, you risk there not being a room available.

Also, Saturday's Gala Dinner must be booked in advance in the on-line shop.

Additional accommodation package information can be found on the 2012 Colloquium web pages: http://www.uk.amsat.org/colloquium/twelve

[ANS thanks AMSAT-UK for the above information]

Russian Satellite RS-40 Yubileiny-2 Launched

A Russian research satellite, with experiments built by students and research staff of the Siberian State Aerospace University and launched on July 28. Signals from RS-40 on 435.365 MHz were first reported by Maik Hermenau on the AMSAT-DL mailing list.

Jan, PE0SAT published information about RS-40 on his web page. While the new satellite uses amateur 70cm downlinks it does not appear to include an amateur radio mission. Details of the downlink signalling protocol have not been made available.

Yubileiny-2 mission aboard this 65 kilograms satellite includes testing advanced technological solutions to be incorporated into future missions:

+ Contoured heat pipes
+ New technological enhancements for onboard radio equipment.
+ Small-sized attitude control elements including magnetic torquers.
+ Testing optical properties of solar concentrators using an experimental solar panel module.
+ Compact navigation receiver using the GLONASS and GPS technology.

Siberian State Aerospace University student built components and experiments include:

+ Earth sensing technology with a camera observing the earth surface.
+ Small WeB-camera to continuously observe the satellite's deployment mechanisms and monitor the performance of satellite components, structures and instruments made of advanced composite materials.

Jan, PE0SAT reports that the signals he received from RS-40 switch between two downlink frequencies:

+ Signals were first copied on 435.265 MHz FM,
+ Then switched to 435.365 MHz FM.
+ After about six minutes the received waterfall patern changed and there where only signals on 435.365 MHz FM

Jan posted details of the received signals at:
http://www.pe0sat.vgnet.nl/2012/i-received-data-from-rs-40/
He includes 2-line orbital elements as well as audio samples and screenshots of the received signals on this page.

First signal reports from RS-40 are documented at:
http://www.pe0sat.vgnet.nl/2012/first-signals-from-rs-40/

[ANS thanks Jan, PE0SAT for the above information]

MSU Attracts NASA Attention With Computer System for Space

Evelyn Boswell for MSU News Service
Bozeman MT (SPX) Jul 30, 2012
http://tinyurl.com/MSU-Experiment (www.spacemart.com)

Two Montana State University graduate students who are building a radiation-proof computer system for use in space have received an extra boost from NASA. Justin Hogan and Raymond Weber recently learned that their project with faculty member Brock LaMeres was one of 14 selected by NASA for development and demonstration on commercial launch vehicles in 2013 or 2014.

The Montana State University cubesat, William A. Hiscock Radiation Belt Explorer, has been orbiting the Earth since Oct. 28, 2011.

MSU's computer system is designed to lay on top of a reprogrammable hardware fabric, LaMeres said. If the system works the way it's designed, it will detect radiation and high-energy particles. If radiation strikes - or looks like it will strike - an active circuit, the computer system can shut down the active circuit and use one of the abundant spare circuits. As a result, astronauts may be able to get by with less shielding than they currently carry into space to protect their computers. They should also be able to work without stopping to fix computer malfunctions.

NASA launched a flight test of their computer aboard a rocket on June 21 from Wallops Island. The rocket soared 73 miles above the Atlantic Ocean, exposing the experiments to zero-gravity and the radiation found in 11 miles of space. Within 15 minutes of launch, the rocket splashed down about two miles from Wallops Island. A commercial fishing boat retrieved the experiments and returned them to the students for analysis.

Hogan and Weber are wrapping up their work on their radiation-tolerant, reconfigurable computer system so it will it into a cube approximately four inches on each side. The cube will head to the Columbia Scientific Balloon Facility at Fort Sumner, N.M. to be launched in early September as part of the High Altitude Student Platform (HASP) program through NASA and the Louisiana Space Consortium. The high-altitude balloon is expected to carry the computer system 22 miles above Earth and stay aloft for 15 to 20 hours.

Read the full article at the link above.

[ANS thanks Montana State University and SpaceMart.com for the
above information]

Olympic Station 2o12W Active on the Amateur Radio Satellites

Olympic Flagship Special Event Station 2 Oscar 12 Whiskey (2o12W)
has been active on the amateur radio satellites working stations
in the USA and across Europe.

The 2o12W satellite station has been operated by Ken Eaton, GW1FKY
a member of the Barry Amateur Radio Club and AMSAT-UK.

The satellite equipment comprises a Kenwood TS2000 feeding a 5 ele-
ment dual-band "Elk" antenna mounted on a rotator on the portable
cabin about 2.5 meters (8 feet) above the ground.

Ken says the station is located on the promenade and the many elec-
trical amusements in the Fairground generate considerable interfer-
ence on the VHF/UHF bands which has made reception difficult.

The station 2o12W is planned to be on-the-air until September.

For photos and more information see:
http://www.uk.amsat.org/9322
http://www.2o12w.com/

[ANS thanks AMSAT-UK for the above information]

Kickstarter Fund Raiser for Ham Radio at South Florida Museum

The West Palm Beach Amateur Radio Group has built and operates a
permanent Amateur Radio exhibit at the South Florida Science Mu
seum in West Palm Beach Florida.

Both the Museum and the amateur radio group are non-profit entities.
The museum gave the space for the exhibit but everything from the
carpet on the floor, the paint on the walls, the overhead lighting,
the electrical wiring and up has been donated and supplied by club
members and limited supporters.

Presently the amateur radio facilities are on the very modest side.
They operate on loaned radios and wire antennas. The club says, "We
get hundreds of youngsters visiting our exhibit every week, only a
handful get to experience that 'Lasting Moment of First Excitement'
due to our limited facilities."

The club has started an on-line pledge drive using Kickstarter to
mmet their goal of more modern radio and put up a tower next to the
building with an antenna on it that will be high enough to get over
the substation next door.

They also need to add exhibits that explain how basic radio, elec-
tronics and antennas work for building the level of excitement.

Visit the West Palm Beach Amateur Radio Group's "Lasting Moment of
First Excitement" Kickstarter Project page at:
http://www.kickstarter.com/projects/997251641/lasting-moments-of-first-excit
ement

The club web pages are at: http://www.wpbarc.com - and -
Facebook page at www.facebook.com/WestPalmBeachAmateurRadioGroupInc

[ANS thanks Tom Loughney, AJ4XM for the above information]

Mars Rover Landing News From JPL

If you have an iPad or an iPhone with a camera, here's a chance to
create personalized photos with a high-resolution 3D model of the
Curiosity rover.

Download Spacecraft 3D from the Apple Apps Store. It's free! (Android
version to be out in a few weeks).

Print a couple of copies of the paper "Targets" before landing night.

Place the Target where you want the rover to appear.

Compose the desired photo, then tap the "Gear" icon and press the
Photo button to take snapshots of the rovers with old and new friends
on landing night.

Send your pictures to: jplpublic@jpl.nasa.gov We'll put together a
collection of photos after the landing.

Other free Curiosity software to play with:

Xbox - Mars Rover Landing

Try your own skills on landing Curiosity through this Xbox game

Downloadable through the Xbox menu system or at:
http://marketplace.xbox.com/en-US/Product/Mars-Rover-Landing/66acd000-77fe-1
000-9115-d80258480836

Eyes on the Solar System: Curiosity Edition

Experience Curiosity as it lands at Gale Crater
http://eyes.jpl.nasa.gov(viewable in any web browser)

Be A Martian Mobile Phone Apps - Mars on the go!
Participate as a Citizen Scientist on the Mars Science Lab mission
iPhone: http://mars.jpl.nasa.gov/mobile/beam/iphone/
Android:http://mars.jpl.nasa.gov/mobile/beam/android/
Windows: http://mars.jpl.nasa.gov/mobile/beam/windowsphone/

Explore Mars on the Web!
This 3D interactive experience lets you explore Mars with Curiosity
Curiosity's Journey: http://mars.jpl.nasa.gov/explore/curiosity
Free Drive: http://mars.jpl.nasa.gov/explore/freedrive/
Gale Crater: http://mars.jpl.nasa.gov/explore/galecrater/
Learn the Rover: http://mars.jpl.nasa.gov/explore/learnaboutrover/

[ANS thanks Jan, WB6VRN, for the above information]

Satellite Shorts From All Over

+ Congratulations to Ted Doty, AA5CK on earning his Satellite Worked All States Award #332. Ted wrote, "I want to express my thanks and appreciation to all of our great Satellite Ops, working from home and portable, to make this award and others a possibility.

+ Remembering this week, that August 2, 1971 was the date when the Apollo 15 lunar module Falcon left the Moon in first televised lunar liftoff: http://en.wikipedia.org/wiki/Apollo_Lunar_Module#Media includes videos.

+ An English language NHK TV news story covers the amateur radio CubeSat FITSAT-1 (NIWAKA) which launched to the International Space Station (ISS) on July 21: http://tinyurl.com/FitsatOnNHK (Southgate)

+ Listen for Nikolai, VE3NKL operating portable from Newfoundland on a vacation trip. He will be on SO-50 and AO-27 time permitting. He is active in grid squares GN09 and GN19. He posts details on his callsign lookup web page at QRZ.com. (via K4FEG)

+ Listen for Norm, N3YKF operating satellites with a portable station he brought with him during his vacation in Peru.

[ANS thanks everyone for the above information]

ARISS Status - 30 July 2012

1. Upcoming School Contact

Space Jam 6, which will be held at the Octave Chanute Aerospace Museum in Rantoul, Illinois, comleted an Amateur Radio on the International Space Station (ARISS) contact on Sunday, August 5 at 10:06 UTC.

The Space Jamboree Workshop is the Midwest's largest technology oriented gathering of Boy Scouts and Girl Scouts. The theme this year is "The History of Aviation." Subjects that will be taught and merit badges that may be earned include the following: Space Exploration, Radio, Aviation, Electronics, Robotics, Soil/Water Conservation, Environmental Science, Energy, Metalwork, Computers, Geology, Nuclear Science, Engineering and Inventing. The Jamboree is working with the University of Illinois, Purdue, and DePauw Universities (high altitude balloon launches, FIRST Robotics, Nuclear Engineering) to help Scouts plan for the future.

2. Girls from WE@RIT Camp Speak with Sunita Williams in Space

Fifth and sixth grade girls attending the "Everyday Engineering" camp at Kate Gleason College, sponsored by the Women in Engineering @ Rochester Institute of Technology (WE@RIT) in New York took part in an Amateur Radio on the International Space Station (ARISS) contact on Monday, July 23. The girls talked with on-orbit astronaut Sunita Williams, KD5PLB who currently holds the record for longest

space flight by a woman. The contact highlighted camp activities that focus on engineering-based themes to teach the engineering design process through hands-on build and design activities. This year's camp theme is "World in Motion." Also attending the contact were students from the grade 7-9 camp (held two weeks ago), the students attending this week's RoboCamp, and the Lil' Kids on Campus Space Week kids. To view video of the contact, see:
http://www.youtube.com/watch?v=bdlpcw_VD4M

3. Virginia Air and Space Center Contact Successful

On Thursday, July 26, Sunita Williams, KD5PLB held an Amateur Radio on the International Space Station (ARISS) contact with youth volunteers from the Virginia Air and Space Center in Hampton, Virginia. The volunteers give tours, provide demonstrations to the public and support the center in its efforts to educate the public. The center has its own amateur radio exhibit and during these summer months, it also welcomes NASA exhibits Destination Station, the Orion Test Vehicle and the Mars Science Laboratory.

[ANS thanks Carol, KB3LKI, for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information.

73,
This week's ANS Editor,
Lee McLamb, KU4OS